

ABSTRACT OF THE DISCLOSURE

A centrifugal separator includes a cylindrical bowl having a conical lower end with an opening through which feed liquid is injected during a feed mode of operation. The feed liquid is separated into centrate and solids, which accumulate along the inner surface of the bowl. A piston assembly includes a conical piston coupled to a piston actuator by a two-part piston shaft. During the feed mode of operation, the piston shaft is disconnected, the piston is held in an uppermost position by hydraulic pressure from the feed liquid, and a centrate valve on the piston is urged open to permit the centrate to flow out to a centrate discharge port. In a solids discharge mode of operation, the piston shaft is connected and the piston actuator urges the piston axially downward, closing the centrate valve and forcing the accumulated solids from the bowl via the opening in the conical lower end of the bowl.

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